DOCUMENT RESUME

ED 342 054 EA 023 282

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TITLE Explaining Differences between Elementary and Secondary Schools: Individual, Organizational, and Institutional Perspectives.
INSTITUTION Research for Better Schools, Inc., Philadelphia, Pa.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE 84
NOTE 43p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Elementary Schools; Elementary Secondary Education; *Expectation; *Institutional Characteristics; *Organizational Theories; Public Education; *Secondary Schools; *Social Attitudes
IDENTIFIERS *Linkage Analysis; *Loose Coupling Theory

ABSTRACT

Although elementary, junior high, and senior high schools are perceived as different, their differences are essentially ignored when organizational theorists characterize schools as loosely linked systems. Such systems share two characteristics: absence of shared goals and decentralization of power. To facilitate development of a more differentiated theory of school linkage, a recent study explored empirical differences among schools at three levels and attempted to explain these differences. Elementary schools consistently have stronger linkages than junior high schools, which in turn have stronger linkages than senior high schools. The data from a sample of 104 public schools in Pennsylvania and New Jersey suggest that differences between levels cannot be attributed to the staff's personal characteristics or to such organizational characteristics as size and complexity. An institutional perspective helps explain the differences between elementary and secondary schools in terms of size, staff, specialization, and gender composition. Historical evidence indicates that these differences result from institutional forces creating different expectations about how older and younger children should be educated. Four statistical tables and 59 references are appended. (MLH)

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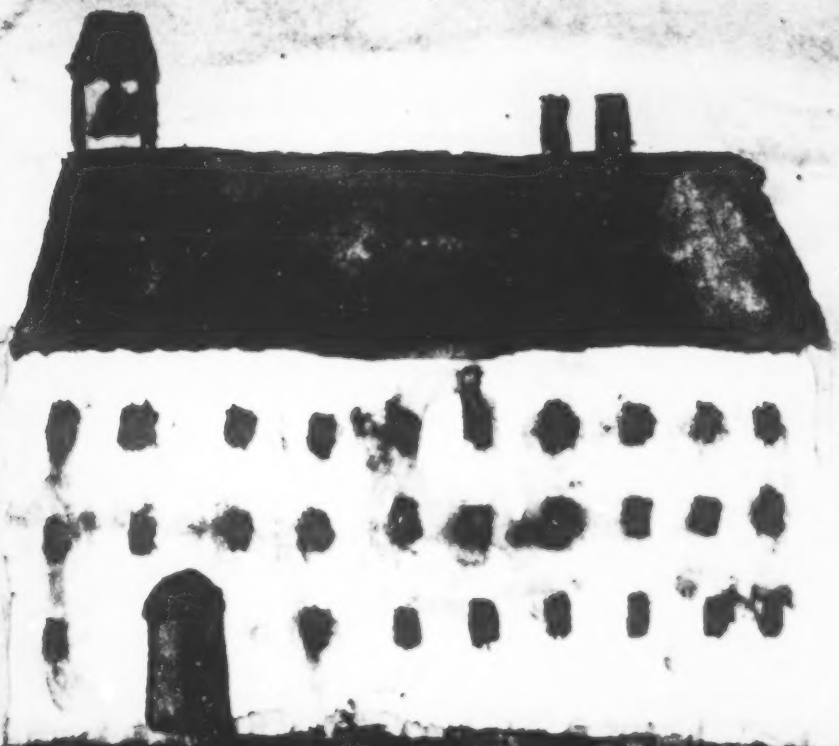
Exploring Differences Between Elementary and Secondary Schools

Individual, Organizational, and Institutional Perspectives



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EXPLAINING DIFFERENCES BETWEEN ELEMENTARY AND SECONDARY SCHOOLS: INDIVIDUAL, ORGANIZATIONAL, AND INSTITUTIONAL PERSPECTIVES

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This publication is a product of RBS' Applied Research project, Bruce L. Wilson and H. Dickson Corbett, Directors and RBS Publications, Keith M. Kershner, Director.

The work upon which this publication is based was funded, in part, by the U.S. Department of Education, Office of Educational Research and Improvement (OERI). The opinions expressed do not necessarily reflect the position or policy of OERI, and no official endorsement should be inferred.

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ABSTRACT

Elementary, junior high, and senior high schools are different. Yet, such differences are ignored when all schools are characterized as loosely linked systems. This paper shows that secondary schools are more loosely linked than elementary schools; influence is less centralized and there is less agreement on goals. Evidence is presented suggesting that such differences cannot be attributed either to staff or organizational characteristics of schools. Historical evidence indicates that these differences result from institutional forces that create different expectations about how older and younger children should be educated.

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EXPLAINING DIFFERENCES BETWEEN ELEMENTARY AND SECONDARY SCHOOLS: INDIVIDUAL, ORGANIZATIONAL AND INSTITUTIONAL PERSPECTIVES[1]

Elementary, junior high, and senior high schools are different; this is one of the most apparent aspects of American education. Yet such differences are essentially ignored when organizational theorists characterize schools uniformly as loosely linked systems (Weick, 1976)--that is, as organizations where the actions of individuals are poorly coordinated. Loose linkages in schools are said to include ambiguous and diverse goals (Sieber, 1975) and weak hierarchies of authority (Corwin, 1970) that limit administrative control of instruction (Lortie, 1969). To facilitate the development of a more differentiated theory of school linkage, we explored empirical differences among schools at different levels. In our work elementary schools consistently have stronger linkages than junior high schools, which in turn have stronger linkages than senior high schools (Firestone, 1980; Firestone & Herriott, 1982; Herriott & Firestone, 1984). However, the primary causes of such interlevel variation in organizational linkages are currently unclear.

Three theoretical explanations seem plausible. One focuses on the individual staff member. It suggests that organizational linkages differ among elementary, junior high and senior high schools because the individuals who staff such schools vary in such important status characteristics as their professional training and gender. A second explanation refers to the organization itself. Variation across school levels is explained by concomitant variation in organizational size and

complexity. A third explanation focuses on the institutional environment of schools. Here interlevel variation in school linkage is thought to result from historically determined cultural forces that create different expectations for the education of older and younger children. These forces operate differentially on elementary, junior high, and senior high schools.

An understanding of the sources of linkages in schools has important practical as well as theoretical implications. A number of studies indicate that tighter coupling patterns can facilitate the implementation of planned change efforts (Rosenblum & Louis, 1981; Wilson & Corbett, 1983) and effective instruction of minority students (Edmonds, 1979; Murphy & Hallinger, 1984). Thus, knowledge of the conditions that influence the strengths of linkages in schools can provide guidance for the assessment of organizational readiness for program improvement and may even suggest ways to increase school performance.

In the sections that follow, we first explicate in some detail our view of organizational linkage in schools and document variation among school levels in linkage patterns within a sample of 104 American public schools. We then present the arguments for each explanation of interlevel linkage differences. The data from our sample of American schools suggests that neither the individual nor the organizational explanations account for differences between levels. Historical evidence is offered that is broadly congruent with the institutional explanation. However, we argue that further research on this explanation is needed.

Organizational Linkage at Different School Levels

The concept of linkage or coupling in schools is subject to multiple definitions. In fact, Weick (1976) lists 15 definitions or examples of

loose linkage. However, when analysts speak of schools as loosely linked, they consistently refer to at least two characteristics: the absence of shared goals that can be used as guides for action and the decentralization of power which allows for substantial teacher autonomy, especially with regard to the conduct of instruction (see, for example, Weick, 1976).

Goal Consensus

The concept of goals is one of the most important, yet controversial, in the study of organizations (Scott, 1981). Ideally, goals should provide a useful coordination mechanism for organizations. If all members of an organization share a common conception of what its goals are, they should be better able to work together to achieve those ends. However, most analyses identify limits to the use of goals for coordination. March and Simon (1958) focus on cognitive limits to using goals to coordinate behavior. They argue that organizations cannot optimize goal achievement, but can only "satisfice" by achieving goals reasonably well for the moment. Two problems are especially relevant. First, Simon (1964) views the organization as a reification that cannot adopt goals; only people can have goals. Second, each individual always has multiple goals. The problem is to create a stable order of preferences among them. This ordering problem is even more complex when a number of individuals must come up with a common set of preferences.

Each of these problems has a somewhat separate resolution. First, Mohr (1973) points out that it is possible to distinguish between an individual's personal goals and goals for the organization as a whole. The latter can be quite important to a person. Second, a preference ordering

can be achieved by a dominant coalition (Pennings & Goodman, 1977). Every organization can be viewed as a collection of internal and external constituencies, each with its own preferences. Through conflict and consensus building activities, a dominant coalition of some, but not all, constituencies develops a preference ordering for the organization that is enforced on all other members. One can then compare organizations in terms of the strength and pervasiveness of the dominant coalition. The more agreement on goals is broadly shared, the more potential goals have to guide behavior.

Goals are especially problematic coordination mechanisms in schools. There is considerable agreement that schools are expected to adopt a wide variety of goals and have little guidance on how those goals should be prioritized (for a review, see Miles, 1981). Such external disagreement can lead to a great deal of confusion, vacillation and conflict. However, this general diagnosis is based on comparisons of schools with other kinds of organizations or with idealized conceptions of organizational rationality. It provides very little guidance about the amount of consensus in different kinds of schools. Until recently, the possibility of variation in goal consensus among schools has not even been explored.

Centralization of Power

Power is a frequently recurring concept in organizational analysis. While most of the central organizational studies of the 1960s and 1970s adopted an apolitical view of their field, there is a long "minority" tradition of examining the distribution and use of power in organizations (Bacharach & Lawler, 1980).

Most studies of power in schools conclude that it is highly dispersed (Miles, 1981). A frequently repeated image is of different "zones of authority." Lortie (1969) suggests that teachers have control over day-to-day instructional matters while administrators control more long-term resource allocation issues. Deal and Nutt (1983) identify separate zones of control for teachers, administrators, and parents. Such conditions contribute to the decentralization of power over instruction in schools. Most notably, many decisions are made by teachers as they work with students (Lortie, 1969) where they are rarely even observed by administrators (Dornbusch & Scott, 1975). Second, administrators control few sanctions that are meaningful to teachers (Lortie, 1975). Third, the segmented nature of schools as organizations isolates each teacher in the classroom and reduces his or her interdependence. Finally, teaching is a nonroutine technology because the problems raised by children occur at unpredictable rates, and solutions must often be sought by trial and error rather than through reference to a strong body of knowledge (Bidwell, 1965).

As is the case with goal consensus, however, it is not clear that this general characterization is equally applicable to all schools. Most studies that touch on the distribution of power in schools (e.g., Lortie, 1969; Corwin, 1970) are limited to a single level so there is no research base for comparing the distribution of power across levels.

An Empirical Study

To explore differences between levels in goal consensus and centralization, we collected data from two highly comparable samples. The first, with 47 schools, is a simple random sample selected from a population of

1407 schools in southeastern Pennsylvania. The remaining 57 schools, located in Pennsylvania and New Jersey, volunteered to receive management training from Research for Better Schools, Inc., a regional educational laboratory. Because the two samples exhibited great similarity on variables of interest for this study, we pooled them to take advantage of the resulting enhanced analytic stability.[2]

The assessment of organizational linkage variables was accomplished through the use of a survey questionnaire administered to teachers in each school. In addition, the principal of each school completed a similar form. In all, 3292 teachers and 104 principals in the 104 school sample were surveyed. All teachers with at least one year of experience in their current school were asked to complete the questionnaire in a group setting within each school. An average of just over 85% of the eligible staff in the 104 schools provided usable data.

Schools were grouped into three levels. The 23 senior high schools all have 9-12 or 10-12 grade patterns. The 23 junior highs include both middle school spans (5-8, 6-8, 7-8) and the more traditional 7-9 grouping. Two-thirds of the 58 elementary schools have a K-5 or K-6 span, but a variety of other patterns are also present.

Our measures of organizational linkage include two indicators of goal consensus and one of centralization of power. The idea of the dominant coalition requires careful specification of who is to be included in any consensus on goals. The groups that are most relevant to day-to-day decisions on instruction are usually the teachers and the principal. To measure goal consensus in each school, we asked the principal and each

teacher to rank order seven "areas of student development" in terms of "how important they are to you as a member of this school."[3]

Consensus among teachers--horizontal goal consensus--was measured by computing Kendall's coefficient of concordance W across the teacher rankings. This statistic produces a single score for each school ranging from 0 to 1 by assessing the degree of agreement among all the teachers in the school across the seven goals. It is an extension of Spearman's rank-order coefficient (r_s), with W representing the communality of judgment for all observers rather than just two observers as is the case with r_s (Siegel, 1956).

Consensus between the principal and teachers of each school--vertical goal consensus--was also measured. To arrive at a single score for each school, we first calculated the Spearman rank-order correlation coefficient between a principal's ranks and those of each of the teachers in his/her school and then calculated a mean of all Spearman coefficients for that school.

Our centralization variable taps the power of principals relative to that of teachers. Each teacher was asked to indicate, on a four point scale (0=low; 3=high), the power of "teachers" and "the principal" in each of four instructional management decision areas.[4] Centralization of power was measured by first subtracting each informant's report of the power of teachers from reported principal power and then averaging the resulting difference scores across informants and decision areas.[5] After adding the constant three to avoid negative values, the resulting school centralization score could range from a high of six to a low of zero.[6]

To determine whether there are differences among elementary, junior high and senior high schools on vertical and horizontal goal consensus and on centralization of power, we compared mean scores at each level. The evidence is both clear and consistent. There is a strong, statistically significant difference in mean scores among the three levels, and the pattern for all three linkage variables is the same.

A geometric progression is apparent, with elementary schools having the strongest consensus and greatest centralization, followed by junior high schools, with senior high schools having the weakest consensus and least centralization (Table 1). The differences are large both statistically (the average Eta square coefficient suggests that over 50% of the variance in organizational linkage is explained by school level) and from a practical perspective (the range between the elementary and senior high means is at least 40% of the range between the scores for extreme schools).

Table 1 goes here

Explaining Interlevel Differences in Linkage

What might account for such dramatic interlevel differences in organizational linkage? To address that question we consider three explanations of linkages in schools and review available evidence that illustrates the contribution each explanation makes.

The Individual Explanation

The individual explanation accounts for differences between levels by referring to the characteristics of school employees. Two characteristics

that might account for differences in linkages are the staff's professional status and its gender composition.

Where professionalism is strong, the occupational group competes with the organization for control of the work process (Scott, 1981). In extreme cases like medicine, the professional group has exclusive rights to perform a particular type of work, set working conditions and standards of good practice, and evaluate the work performed (Friedson, 1973). Professionals justify their broad discretion largely be reference to their extensive training which should guarantee uniformly high skill levels and socialize practitioners to norms defining and governing good practice. For professionalization to influence school linkages, there must be substantial differences in professional status between levels. The crucial difference may be in the amount of training teachers receive. More training at the secondary level should increase professional skill, thereby requiring that teachers have more autonomy to practice their craft, and socialize them to norms and goals that differ from those of administrators. Thus, our first hypothesis is that:

H_1: The more advanced training of secondary school teachers, in comparison to that of elementary school teachers, explains the looser linkages at the secondary level.

Gender composition could also explain observed linkage differences through two mechanisms. The first relies on status differences. Individuals with higher ascribed status are generally perceived as more competent and more deserving of leadership responsibility (Berger, Cohen, & Zeldich, 1972). In American society women generally have lower status than men (Lockheed & Hall, 1976). Therefore, it is argued, men usually dominate mixed-sex situations (Meeker & Weitzell-O'Neill, 1977). When groups are

formally differentiated, consistency between organizational and gender-related status becomes important (Homans, 1961). Influence will be more centralized when followers have uniformly lower status. Thus, centralization should be greatest in schools with male principals and all female staffs, a condition that occurs most often at the elementary level. As the proportion of male teachers increases in the upper grades, centralization should be reduced.

The second argument stems from personality differences. According to Gilligan (1979), women have a greater capacity for empathy than men, and they see moral problems in terms of competing responsibilities rather than competing rights. As a result, women can assess problems of goal differences pragmatically in light of the specific situation while men press for consistency across situations. According to this line of reasoning, groups with a greater proportion of women should be more willing and able to work out compromises that promote goal consensus. In sum these two arguments suggest a second hypothesis:

H_2: The greater proportion of men in secondary schools than in elementary schools explains the looser linkages at the secondary level.

The Organizational Explanation

The second explanation attributes differences between levels to the organizational characteristics of the schools. High schools are larger than elementary schools and more complex in that they are departmentalized and teachers specialize by subject area.

Size and complexity are usually used to predict structural variables like span of control rather than the linkage variables examined here

(Scott, 1975). Weber would have expected size to promote centralization (Gerth & Mills, 1946), but Blau and Schoenherr (1971) found just the opposite relationship. Moreover, most past studies examined centralization of influence over major policy decisions (Hage, 1980). The decisions we are examining, which affect day-to-day production activity, are most likely to be decentralized in larger organizations (Mansfield, 1973). Although we know of no studies that link size to goal consensus, we expect purposes to be more diverse in large organizations if only because more people will have more divergent views on what goals should be. In sum, we hypothesize that:

H_3: The larger size of secondary schools, when compared to elementary schools, explains the looser linkages at the secondary level.

Complexity is usually measured by the number of departments or levels in an organization, but what is really important is the proportion of specialists. Scott (1981), for example, concludes that choosing whether to subdivide tasks and control them from the center or to leave them aggregated and decentralize by delegating control to professionals is a watershed organizational design decision.

Hage (1980) argues that the concentration of specialists is a major factor promoting decentralization. The greater the number of specialities represented in an organization, the less a manager or supervisor will know about what workers do and the poorer the position of the supervisor to evaluate the quality of work accomplished.

A concentration of specialists should also reduce goal consensus. Simon (1964) makes this case for departments, arguing that they usually adopt goals of their own. While initially these disparate goals can be

means to serve overall organizational ends, they come to be ends in themselves for the people in the unit. The same effect should happen with specialization in schools. Subject matter specialization should reduce goal consensus as English and mathematics teachers, for example, place relatively higher value on basic skills achievement while social studies teachers give higher weight to education for citizenship and shop and business teachers emphasize vocational training. These considerations lead to a fourth hypothesis:

H_4: The greater concentration of specialists in secondary schools, when compared to elementary schools, explains the looser linkage at the secondary level.

The Institutional Explanation

The institutional explanation attributes differences between levels to external social forces. Parsons (1960) argues that the main reference point for analyzing an organization is its defined value pattern which must be in accordance with the more generalized values of the larger society. Expanding on this point, Meyer and Rowan (1977) maintain that organizational structures and processes are shaped more by the legitimacy requirements of the environment than efficiency criteria. To them any sector of the society in which organizations are found is governed by a set of "institutionalized rules" that may be taken for granted or supported by law or public opinion (Starbuck, 1976). Thus, schools are rewarded not for how well their students learn but rather for their ability to hire certified personnel, to adopt externally approved curricula, and to otherwise incorporate socially sanctioned organizational forms. Organizations working in the monopolistic public sector are expected to show compliance

with those rules through the adoption of appropriate purposes and organizational arrangements.

The creation of institutionalized rules and the spread of compliance behavior in organizations is a historically driven, dynamic process. The beginning of this process is often a social movement to obtain recognition for a particular group--e.g., underpriviledged children, the handicapped, the gifted, or the aged--or a problem, like drunk driving. Such a movement often leads to the professionalization of its practitioners, to legislation to regulate the field, and to the creation and reform of organizations to regularize service. Scott (1983) describes this process in the field of aging. The same process can be traced in the history of Title I, a program for "underpriviledged" children in education (see Kirst & Jung, 1980). Rowan (1982) illustrates this process by showing how movements for health, psychological, and curriculum services led first to legislation and then to the addition of required personnel in California schools.

Institutionalization can lead to reform by accretion. If a variety of social movements lead to additional purposes for high schools but not for elementary schools, one might find a gradual spread of purposes and diversification of personnel over time. This would reduce goal consensus. Since each personnel category is responsible to a different external interest group, it could also lead to decentralization. Thus, the institutional explanation suggests another hypothesis:

H_5: Over time broad social and cultural forces aimed disproportionately at high schools have created looser linkages at the secondary level than at the elementary level.

Moreover, the effects of institutionalization need not be limited to linkage variables. Indeed, the greater size and specialization of secondary schools could be a byproduct of the same processes. Even the personal characteristics of the staff could be institutionally determined if those characteristics reflected agreed upon social meanings. Thus, associations among school level, organizational or individual characteristics, and school linkages would not be causal. Rather, they would reflect the effects of institutionalizing forces. If this is the case, one would also expect that:

H_6: Over time broad social and cultural forces caused differences in the organizational and aggregate individual characteristics of elementary and secondary schools.

Testing the Individual and Organizational Perspectives

We tested the power of the individual and organizational perspectives to explain the strong associations between school level and organizational linkage noted in Table 1 by turning to data from the 104-school sample. As our measure of the formal training of teachers we used the percent of teachers in each school with a masters degree and for gender composition the percent who were male. Our measure of organizational size was the number of pupils in attendance and of specialization the percent of teachers who taught primarily classes in a single subject area.[7]

Each of these four variables is positively associated with school level and negatively associated with organizational linkage (Table 2), which suggests that each one could explain the relationship between level and linkage. If the association between level and linkages is really explained by one of these individual or organizational variables, then the

level effect should vanish when appropriate statistical controls are introduced.[8]

To see if this is the case, we regressed each of the three linkage variables against school level and each of the four rival explanatory variables.[9] Table 3 shows the results for each linkage variable separately. For each linkage variable, five equations are presented. The first row shows the results for that linkage variable regressed on level. The next four show how those results change when a single rival explanatory variable is added. It is apparent in this table that the regression coefficients (betas) for school level do not shrink substantially when the explanatory variables are entered. The largest reduction is in the coefficient between horizontal goal consensus and level (-.87) which declines .23 to a still very healthy -.64 when percent of staff that is male is entered. Another way to look at the explanatory power of level is to compare the size of its beta with that for the explanatory variable. In the most extreme case--the equation for vertical goal consensus when specialization is entered--the beta for level remains almost twice as large as that for the hypothesized explanatory variable. Thus, these data offer no support for the explanatory hypotheses derived from either the individual or organizational perspectives.

Tables 2 & 3 here

Exploring the Institutional Explanation

While professional education, gender, size, and specialization do not explain the association between school level and linkages, the associations of these four variables with level is striking, to say the least, (see Table 2) and beg for explanation in their own right. The institutional explanation offers a parsimonious way to account for these associations as well as those between level and the three linkage variables. To make this case, it is necessary to show that student "age" is a social construct subject to redefinition depending on cultural expectations and then to show how institutionalizing forces created the differences between levels already noted. Unfortunately, there are few historical works that address the development of elementary and secondary schools in ways that permit a direct test of this explanation. However there is historical evidence with respect to goal consensus, size, and gender that suggests the correctness of the institutional explanation. Before turning to that evidence, we briefly examine the changing meaning of age as a social category.

The Social Meaning of Age. Age is both a biological and social construct. The social meaning given to specific age groups and the treatment that people of a certain age should receive varies among societies and in the same society over time. Aries (1962), for instance, has demonstrated that the concept of "childhood" simply did not exist in medieval France. There was no specific word for people who were no longer babies and not yet adults, and in paintings they were portrayed as undersized adults. By the fourteenth century, the idea of the child as something to hold and love and as a source of amusement had become common.

By the sixteenth century, this special interest in children was supplemented by a concern for their psychological and moral development much closer to that expressed by modern educators.

In America the changing meaning of age can be seen in the roles allocated to "teenagers." In the nineteenth century, American society defined teenagers as part of the workforce, and very few were in school. In 1890 only four percent of the nation's seventeen-year olds graduated from high school, and they were typically children of the rich. Today most teenagers go to school. By 1970 three quarters of the seventeen-year olds graduated from high school (James & Tyack, 1983). This change reflected considerable social struggle in which forces advocating the welfare and protection of children combined with labor interests to move teenagers out of the workforce and into schools.

Goal Consensus. According to the institutional explanation, differences in linkages between schools at various levels should result from different conceptions of what older and younger children are like, what their educational needs are, and how those needs should be translated into school programs and organization. The changing conceptions of what constitutes appropriate education for teenagers are better documented than those for younger children. According to Cohen and Neufeld (1981), the expansion of secondary education resulted from a series of social movements that led to the expansion of purposes at the high school level and simplification of goals for elementary schools. They argue that two articles of faith affecting the shape of American high schools have been the idea that specialized, technical knowledge is the key to national economic development and that educational attainment is a crucial requirement for personal, social, and economic advancement. These beliefs

provided the rationale for the massive increase in attendance at the secondary level and led to the adoption of the comprehensive high school (rather than the more specialized, but socially segregated forms more common in Europe and Japan) as the model for American schooling. Growth and comprehensiveness required a single institution to serve the diverse needs of students with very different abilities and interests and forced high schools to adopt a wide range of goals.

Through a study of various commissions issuing reports calling for the reform of secondary education, James and Tyack (1983) trace how the growing high school population and changing definitions of students and schools shaped conceptions of the purposes schools should serve. They argue that these commissions are best viewed as reflecting public concerns and interpreting to the public and to educators the implications of changing social conditions for education. The first major commission--the Committee of Ten in 1893--was composed of university presidents intent primarily on standardizing precollegiate education. This committee focused on the cognitive goals of high schools. By 1917, the National Educational Association's Cardinal Principles reflected concerns of the progressive era resulting from social dislocations caused by industrialization. It argued for broadening the purposes of education to include preparing students for citizenship and ethical behavior. Vocational education also became a goal for the American high school at this time (Cremin, 1961). In the 1970s a new purpose was adopted: overcoming racial inequalities in access to social status. James and Tyack (1983) suggest that these external social expectations for American secondary education created a continuing, if uneven, expansion of the purposes high schools are expected to serve. As a

result, according to Ernest Boyer (1983, p. 57), "high schools have accumulated purposes like barnacles on a weathered ship."

At the same time, the expansion of high schools reduced the pressure on elementary schools to serve multiple purposes. As more and more children went on to high school, it replaced the elementary school as the last opportunity to prepare them for the world of work and citizenship. Thus, elementary schools could concentrate on a more limited agenda, one focused primarily on basic skills instruction (Cohen & Neufeld, 1981).

If this general historical analysis is correct, one would expect to find in the public at large greater consensus on educational goals for elementary schools than for the secondary level. Goodlad's Study of Schooling provides some evidence on this point. As part of the study, the research team surveyed parents, students, and teachers on their expected goals for their schools. Generally, the team found more agreement among all three groups on the primacy of basic skills instruction at the elementary level and dispersal of preferences among a variety of instructional goals at the secondary level (Sirotnik, 1983). Thus, it appears that the public does bring a broader agenda to high schools that to elementary schools.

Goals and Size. The larger size of high schools resulted from institutionalizing pressures to support the full range of goals those schools were expected to address. When James Conant (1959) argued that a top priority for many states should be the elimination of small high schools, his rationale was that it would not be economically feasible to teach some expected subjects--such as the sciences and foreign languages--in small schools. There were no similar demands to increase the

size of elementary schools because comparable pressures to use specialists to teach a highly diversified curriculum were absent.

By the time of Conant's report, his position was widely accepted among professional educators and among educationally active elites in most states. The effort to create large high schools became part of the movement to consolidate school districts that began near the turn of the century and continued in some states at least into the 1960s. Consolidation was originally an effort to eliminate one-room schools and manage schools more efficiently (Tyack, 1974); but after World War II, a major purpose was to create large enough high schools to address the full range of goals those schools were expected to achieve. In many areas consolidation efforts created substantial resistance. Battles over the formation of particular districts and the creation of unified high schools within them were extremely acrimonious. They often lasted for many years and only succeeded because the forces of professional opinion and legal sanction held sway (Alford, 1960; Firestone, 1980; Peshkin, 1982). In some cases even when a consolidated district was created, resistance to combining small high schools was too strong to overcome (Messerschmidt, 1979), but these were the exception.

In sum, the large size of modern American high schools is a result of deliberate efforts by professional elites to create organizations that could efficiently work towards the full range of goals that high schools are expected to achieve. Although the historic evidence is not as complete, we can speculate that elementary schools are smaller than high schools in part because there were no comparable pressures to meet a

diverse range of goals. Moreover, it seems probable that an institutionally established view that younger children need more nurturance and closer guidance helped to keep elementary schools small.

Gender. The feminization of the teaching occupation was a complex process that is just now being adequately explored.[10] In the colonial era, teaching was a strictly male occupation, usually practiced by young farmers in the off-season, college students, or others starting out a career who could be induced to work for low wages for a short time. The subsequent introduction of women teachers reflected both economic and institutional factors. As the common school expanded in the 1850s, school boards sought a source of cheap labor who could be counted on for the longer school year required by a permanent, formalized school system; but they also wanted to maintain teaching as a white-collar occupation. One place to look for such labor was among the growing pool of literate, middle-class, single women who had limited employment alternatives.

To take advantage of this labor pool, American society needed a culturally acceptable explanation for why women could teach since they had no generally accepted economic role outside the home. The people who provided it were also involved in expanding ideas about the acceptability of women receiving education: Emma Willard, Catherine Beecher, Mary Lyon, and others. Their arguments were based on existing understandings about women's roles, and they provided the basis for a social movement to allow women to teach. Because they understood how strong the "cult of true womanhood" was, they avoided competition between the idea of "woman as teacher" and "woman as mother" by suggesting that teaching prepared women to be better mothers (Tyack & Strober, 1981: 136). They billed teaching

as a temporary activity to facilitate the transition from the woman's childhood home to the home where she would be a wife and mother. Moreover, they claimed that women were by "God's design" the ideal teachers of smaller children because they were nurturant, patient, and able to understand young minds. This explanation set the stage for a sexual specialization that gave women responsibility for teaching younger children rather than older ones. An additional argument for hiring women teachers was advanced by male school administrators, especially during the late nineteenth century when large urban districts were developing. These administrators contended that female teachers were more willing to follow the direction of their male superiors. Thus, the hiring of women was part of a deliberate effort by male administrators to centralize control of their schools and districts and bolster their roles as principals and district administrators (Tyack, 1974).

With the rise of the large-city school system and the graded school, sexual specialization became conscious sexual segregation. Women taught primarily in elementary schools, and men taught primarily in at the secondary ones. At least two arguments were advanced for this arrangement. The first was the familiar idea that women had a superior understanding of young children and so could better serve in the lower grades than male teachers. The second was a concern that women could not maintain control in classrooms with larger, older students. In fact when women worked in situations where discipline was a problem, they often worked for male administrators who could help them control students (Tyack & Strober, 1981). Here again the historical evidence suggests that a difference among schools that was thought to explain variation in school linkage may actually be accounted for by institutionalizing forces, the same forces that seem to account for linkage differences among levels.

Conclusions and Implications

The evidence presented above clearly documents substantively important differences between schools in the degree of organizational linkage. Senior high schools are more loosely linked than elementary schools, for they exhibit less agreement on what basic instructional purposes should be addressed, and power is less centralized. Junior high schools fall between elementary and senior high schools on all three variables. The data clearly suggest that such differences cannot be attributed to the personal characteristics of the staff of these schools or to such organizational characteristics as size and complexity.

An institutional explanation seems to account for these findings better than individual and organizational ones and has the added advantage of explaining the differences between elementary and secondary schools in terms of size, staff, specialization, and gender composition. From this perspective, the stronger linkages at the elementary level reflect the greater societal consensus on what those schools should do and the more limited mission assigned to them. Goal consensus among the staff reflects consensus in the larger society. Moreover, from this perspective, the individual and organizational correlates of organizational linkage are best viewed as signs that institutionalized rules are being adhered to. They take on the same function as the decentralization of power for showing compliance with the loose consensus within the larger society.

There are several ways in which stronger evidence in support of these assertions could be marshalled. Perhaps the most convincing evidence would result from systematic quantitative natural histories of the emergence of elementary, junior high and senior high schools within particular states or school districts. We suspect that such studies would show that the age span of children assigned to particular schools has shifted over time with discernible changes in the loose societal consensus regarding the purposes of formal schooling and how those purposes can best be carried out and that current arrangements reflect the political activity of state governments and professional associations. Similarly, quantitative historical evidence is likely to show that variation in the size, complexity, and centralization of schools at different levels has also resulted from such shifts in institutionalized rules.

Such historical evidence could be buttressed by well-designed national surveys of contemporary public attitudes about the appropriate goals for elementary, junior high, and senior high schools and about the appropriate individual and organizational characteristics of schools assumed to be indicative of their accomplishment. From the institutional perspective introduced above, we would expect far greater consensus on the goals of elementary than of secondary schooling, and--associated with the lack of consensus at the secondary level--a preference for larger, more complex and more decentralized organizational structures at that level.

A third approach to understanding better the implications of an institutional perspective on differences between elementary and secondary schools would capitalize on the extensive social criticism of American schools--particularly senior high schools--currently underway. As many as

nine federally or privately supported commissions are claiming America to be, in the words of one commission, "a nation at risk" because of the inferior quality of the public schools (National Commission of Excellence in Education, 1983). As was the case with their predecessors, these commissions are endeavoring to change the institutionalized rules governing schools. One proposed change, for instance, is a narrowing of purposes in senior high schools through an attack on the proliferation of courses (Sizer, 1983). If these commissions are persuasive, their recommendations will be converted to changing social expectations (and thus new laws and regulations) about the functions and structure of schools. Over the next decade it would be informative to study changes in organizational structure and purpose at each school level to see results from the recommendations of these commissions.

What might such changes look like? To the extent that the institutional perspective is correct, it seems likely that efforts at large-scale structural change--the kind of changes that modify organizational linkage--will be slow and sporadic. These changes will reflect larger social pressures for reform that are usually incoherent and often contradictory. In fact, from an institutional perspective the uncertain nature of these expectations is what creates loose linkages in schools. The 1960s, for instance, were a period when schools faced new expectations without losing old ones. As the social consensus about the purposes of education weakened, internal goal consensus seems also to have lost strength. This may also have been a period of higher teacher autonomy. We are now in a period where social expectations for schooling are becoming narrower and more conservative, so we should see a tightening of linkages in American schools.

NOTES

1. The preparation of this paper was supported by funds from the National Institute of Education, United States Department of Education. The opinions expressed do not necessarily reflect the position or policy of NIE, and no official endorsement should be inferred.

2. To assess the appropriateness of pooling the two samples a series of two-way ANOVAs (sample by level) were conducted for each of the seven variables presented in this paper. All variables had highly similar means and standard deviations across the two samples and the three levels and in no instance was the interaction between sample and level statistically significant.

3. The seven areas are:
   - appreciation and striving for excellence (in school work or other areas)
   - critical and original thinking
   - basic skills (reading and math)
   - respect for authority (discipline, character building, etc.)
   - vocational understanding and skills
   - understanding others (cultural pluralism, getting along with peers, etc.)
   - self-esteem (self-concept).

4. The four decision areas are:
   - selecting required texts and other materials
   - establishing objectives for each course
   - determining daily lesson plans and activities
   - determining concepts taught on a particular day.

5. Since the unit of data (an individual teacher) is different than the unit of interest (the school), a one-way analysis of variance (using school as the main effect and the teacher as the unit of analysis) was employed to assess the appropriateness of aggregating these responses from the teacher to the school. The resulting Eta square coefficients (measures of the proportion of that total variance in teacher reports accounted for by schools) for these four items ranged from .11 to .32, all of which are statistically significant at the .05 level. Consequently, we used the mean of all teachers within each school as the score for that school in each of the four instructional management areas. Prior to averaging across the four areas a reliability test was employed to examine the compatibility of the four scores (Cronbach, 1951). It yielded a highly satisfactory alpha coefficient of .81.

6. Descriptive univariate statistics for each variable presented in this paper can be found in Table 4.

7. The formal training and gender composition variables for each school were computed from biographical data provided by each of the teacher-respondents in each school. School size was reported by the principal. The specialization variable was computed from time allocation data provided by the teacher-respondents. Each teacher had been asked to allocate his/her weekly teaching time across a list of ten subject areas. Any teacher indicating that more than sixty percent of his/her time was spent working in a single subject area was considered to be a specialist. A school's specialization score was achieved by calculating the percent of teachers in that school identified as being specialists.

8. The general analysis approach taken in this section follows the three-variable logic of Simon (1954) and Lazarsfeld (1961). Such logic requires that all three variables be associated in zero-order form and that the first-order association between two of the variables vanish when the third is controlled.

9. In undertaking these regression analyses we were mindful of the potential problems of interpretation created by multicollinearity among school level, each linkage variable and each rival explanatory variable (see Table 2). To consider the possible adverse effects of multicollinearity we examined the mean linkage score within twelve nine-cell tables (one for each of the twelve first-order regression equations presented in Table 3) created by cross-classifying school level with a trichotomous version of each of the rival explanatory variables. In no instance did an inspection of the resulting mean scores suggest that problems of multicollinearity were distorting the regression analysis.

10. This section relies heavily on the work of Tyack and Strober, 1981.

Table 1

Mean Scores for Three Organizational Linkage Variables by School Level

Organizational Linkage Variable	School Level			Eta Square
	Elem (N=58)	Jr Hi (N=23)	Sr Hi (N=23)	
1. Horizontal Goal Consensus (0.00 = low, 1.00 = high)	0.48	0.27	0.18	.77*
2. Vertical Goal Consensus (-1.00 = low; 1.00 = high)	0.50	0.32	0.23	.44*
3. Centralization of Power (0.00 = low; 6.00 = high)	1.83	1.33	1.11	.51*

*p $\angle$.05

Table 2

Zero-order Pearsonian Correlation Coefficients for Eight Organizational Variables (N = 104)

Variable	Coefficient							
	1.	2.	3.	4.	5.	6.	7.	8.
1. Horizontal Goal Consensus	--	.75*	.65*	-.15	-.81*	-.68*	-.80*	-.87*
2. Vertical Goal Consensus		--	.49*	-.06	-.58*	-.51*	-.63*	-.66*
3. Centralization of Power			--	-.28*	-.65*	-.50*	-.64*	-.71*
4. Professional Training of Staff				--	.22*	.25*	.19*	.18*
5. Maleness of Staff					--	.68*	.83*	.85*
6. Size of School						--	.66*	.75*
7. Specialization of Staff							--	.84*
8. School Level (E=1, J=2, S=3)								--

*p $\angle$.05 (one tailed)

Table 3

Regression of Linkage Variables on School Level and Explanatory Variables

A. HORIZONTAL GOAL CONSENSUS

Beta Coefficient					R-square
Level	Training	Male	Size	Spec.	
-.87*					.75
-.86*	-.00				.75
-.64*		-.27*			.77
-.81*			-.08*		.75
-.67*				-.23*	.76

B. VERTICAL GOAL CONSENSUS

Beta Coefficient					R-square
Level	Training	Male	Size	Spec.	
-.66*					.43
-.67*	.05				.43
-.60*		-.07			.43
-.63*			-.04		.43
-.45*				-.25*	.45

C. CENTRALIZATION OF POWER

Beta Coefficient					R-square
Level	Training	Male	Size	Spec.	
-.71*					.50
-.68*	-.16*				.52
-.56*		-.17			.50
-.75*			.06		.50
-.57*				-.16	.50

*p $\angle$.05 (one-tailed)

Note: For each of the twelve equations with two beta coefficients, the difference between the beta coefficient for school level and that for its associated rival explanatory variable is statistically significant at below the .05 level (two-tailed).

Table 4

Descriptive Univariate Statistics for Three Organizational Linkage Variables and Three Rival Explanatory Variables (N = 104)

Variable	Mean	Standard Deviation	Skewness
Organizational Linkage			
1. Horizontal Goal Consensus (0 = low; 1 = high)	0.37	0.15	-0.05
2. Vertical Goal Consensus (-1 = low; 1 = high)	0.40	0.18	-0.29
3. Centralization of Power (0 = low; 6 = high)	1.56	0.43	0.28
Rival Explanatory			
1. Professional Training of Staff (percent with a masters degree)	47.1	16.8	
2. Gender Composition of Staff (percent who are male)	33.4	21.8	0.15
3. Size of School (number of pupils)	671	481	1.89*
4. Specialization (percent who are specialists)	52.6	32.8	-0.20

*Because of the high degree of skewness in school size its natural logarithm was used in all correlation and regression analyses.

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